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Project Summary ORIGINAL

Applying for a Permit to Destroy PCB Waste Oil: Volumes I and II

S. G. Zelenski, Joanna Hall, and S. E. Haupt

The complete Project Report, which is summarized here, documents the permitting process followed by the State of Michigan before allowing a trial destruction burn of polychlorinated biphenyls (PCBs) at the General Motors (GM) Chevrolet Bay City plant. The report is in two volumes. Volume I includes a chronology of events and a matrix depicting the interaction of Federal, state, and local government agencies and GM in the permitting process. The matrix lists who requested and who responded to each need for additional information. An analysis is given of the significance of interactions, including interagency communications, private sector-public communication, and the flow and quality of information developed. Finally, recommendations are made, based on this permit application process, that might facilitate subsequent permit applications for burns of hazardous materials.

Volume II of the full report contains the relevant documents summarized in Volume I.

This Project Summary was developed by EPA's Industrial Environmental Research Laboratory, Research Triangle Park, NC, to announce key findings of the research project that is fully documented in a separate report of the same title (see Project Report ordering information at back).

Introduction

Before the enactment of the Toxic Substances Control Act (TSCA) in October 1976, EPA's authority covering polychlorinated biphenyls (PCBs) was limited to the regulation of contaminated water from point sources. Under the Clean Water Act of February 2, 1977, Section 307 (a) (42FR6532-6556), the EPA promulgated a rule banning the discharge of PCBs into navigable waters by electrical transformer and capacitor manufacturers.

On February 17, 1978, (43FR7150-7164), acting under TSCA, the EPA promulgated a rule regulating the disposal of PCBs and requiring that special warning labels be applied to large capacitors, transformers, and other PCB items. This Disposal and Marking Rule covered liquid PCBs as well as other material and equipment components containing or having contained PCBs in concentrations greater than 500 ppm. This rule was further clarified by amendments published on August 2, 1978, (43FR33918).

The Final PCB Ban Rule appeared in the *Federal Register* on May 31, 1979, (44CFR761:31514-31568), and took effect on July 2, 1979. This rule integrates the February 17, 1978, PCB Disposal and Marking Rule with the Production Ban Rule; therefore, the Final Ban Rule provides the total scope of PCB regulations through July 2, 1979, its effective date. These regulations led to the accumulation of large volumes of PCB-contaminated fluids while sources attempt to develop and use acceptable means of disposal as provided by Subpart B of the PCB regulations.

One source of PCB-contaminated fluids is the contamination of process machinery oils by PCB residuals. PCBs had been used previously in cutting oils because of their flame retardant properties, which provided greater machine operator safety. Because of the tenacity of PCBs to surfaces, each time machinery is flushed with oil free from PCBs, the flushings are contaminated by PCB residues in the machinery.

The EPA has established that, if the PCB concentration of these fluids is in the range of 50 to 500 ppm, the waste oil may be destroyed by incineration in an industrial boiler The Federal regulation (40CFR761) stipulates that:

(1) The boiler must be rated at least at 50 million Btu/hour.

(2) The PCB-contaminated waste must constitute no more than 10 percent of the total volume of fuel.

(3) The waste must not be added to the boiler during startup or shutdown.

(4) Certain combustion and fuel feed conditions must be monitored during the burn.

(5) The regional EPA administrator must be given 30 days notice of the proposed burn.

(6) The burn cannot take place without the approval of the EPA regional administrator.

The facility at Bay City, MI, run by the Chevrolet Division of General Motors (GM), is presented with the problem described above, having accumulated approximately 60,000 gal. of hydraulic fluids contaminated with PCBs in the concentration range of 50 to 500 ppm. This facility has the following basis for disposing of its wastes by incineration:

- It possesses two boilers in the size range required by EPA for incineration of waste oil.
- It possesses a large volume of PCB-contaminated oil in the concentration range allowed by EPA for industrial incinerator destruction.
- It had previously burned PCBs in its boilers, and its tests showed excellent destruction efficiencies.
- After being notified by Mr. Potter, GM's Vice President for Environmental Activity, EPA had contacted GM and asked if they would be willing to conduct the test.

In addition to notifying the EPA regional administrator, Michigan air quality regulations require that GM obtain a permit from the State Air Quality Division under Michigan Act No. 438, Rule No. 21. This regulation provides that any source of contamination to the air needs a permit to operate. Thus, a permit is necessary for any construction, reconstruction, and alternation of any process, fuel burning equipment, or refuse burning equipment that is a potential source of air contaminants. No specific procedure for obtaining the permit is outlined in the regulation, and public comment period, at staff discretion, is used only in significant or controversial cases.

Because of the regulatory requirements, certain engineering and operating protocols were established by GM and EPA's contractor, GCA Corporation, in support of anticipated technical needs. The Appendix to the full report describes the analytical sampling and analysis support developed by GCA Corporation. In addition, the Appendix gives the preliminary environmental analysis, including dispersion modeling and relevant health and ecological standards considered important for evaluating the proposed burn.

Chronicle of Events

To provide an understanding of the path taken by the permit application process to date, a chronology of events is included in Volume I of the full report. Copies of all available documentation of events cited in this chronology are presented in Volume II of the full report.

The chronology shows three phases governing the incineration disposal of PCBs at the GM-Bay City plant. The first, or preregulatory phase, was between 1974 and Fall 1977 when PCBs were incinerated at the plant without restrictions. This period occurred before any GCA involvement.

The second, or regulatory phase, was initiated by state-applied restrictions on PCB incineration. Regulatory action was intensified when EPA issued PCB regulations. During this phase, from Fall 1977 to mid-1979, the structure of the PCB incineration permit and permitting process was gradually developing as the control agencies gained implementation experience.

Failure to supply sufficient data to meet Federal combustion criteria for PCB disposal was cited in 1978 by the DNR as the reason for GM permit application denial. It was apparent that GM would require technical assistance in obtaining the incineration permit. The commercial availability of PCB incineration facilities had become an EPA waste management goal; thus, in the interest of that goal, EPA contracted with GCA/Technology to provide active assistance to GM in the permit process. GCA's initial involvement was to gather technical information to support GM's permit application.

The third phase was characterized by the interactions of the press and public in the already complicated permitting process. This period was replete with public hearings, agency inquiries, GCA responses, incineration disposal support/condemnation statements, and decision delays. GCA's role was broadening as areas of concern expanded from combustion details to estimating human and environmental impact of PCB incineration.

Press Coverage of Permit Application Process

The Michigan press had already influenced this permit application process because of coverage of the Peerless Cement Permit Application, 2 years before. The press had been the major source of public information at that time, and the emotionalism associated with the Peerless permit had certainly not dissipated by the time of the GM permit application.

Public objection was the major problem the Chevrolet Bay City Plant encountered when applying for this permit to burn waste oil containing PCBs. As the application process proceeded, various public interest groups received their information primarily from the press and made value judgments based on this information. The Bay City Times and newspapers from neighboring cities covered the matter extensively. The coverage in itself may have influenced public opinion, which, when aroused, delayed the permit process.

Conclusions and Recommendations

Perusal of the events detailed in the full report describing the permit applica-

tion process can present a confusing picture. However, certain conclusions can be drawn based on the progression and documentation of events. Although each permit application process is unique, these conclusions may be representative of the difficulties that could be encountered in any similar process.

- The public, either directly or through elected representatives, was not informed of the proposed permit application during the early planning stages.
- Special interest groups (e.g., the Michigan Lung Association, the Michigan Branch of the American Cancer Association, and the United Auto Workers) were not informed of the proposed permit application during early planning stages.
- The GM personnel, to be involved in the test resulting from approval of the permit application, were apparently not initially informed of the permit application, but were informed only when queried by the press.
- The public has, by legislation, an important influence on the permitting process.
- Previous incidents in the state, such as the Peerless Cement Co. permit application for PCB incinerations and a PBB spill, had already formed much of the public's attitude toward hazardous waste disposal.
- GM-Chevrolet Bay City did not adequately anticipate the public's and special interest groups' needs for information.
- Information finally provided to the public and special interest groups by nonmedia sources, such as presentations at public hearings, was apparently too technical.
- There was apparently a lack of adequate communication and of clearly delineated responsibility assignments between participants in the permit application process.

Although these are certainly not the only conclusions that may be drawn from the available documentation, they do represent a composite of: a distillation of the documentation, and the problems cited most by participants in the permitting process during informal interviews.

If these conclusions accurately reflect the incidents that occurred as part of the permitting process, certain recommendations to facilitate the process in the future are:

(1) Identify all groups that play important roles in future permitting processes.

(2) Contact these groups by letter or personally.

(3) Develop a relationship of cooperation with these groups.

(4) Determine the level of support required for the proposed action, and determine the necessary course of action based on that level of support.

(5) If warranted, proceed with formal permit applications.

S. G. Zelenski, Joanna Hall, and S. E. Haun are with GCA/Technology Division, Burlington Road, Bedford, MA 01730.
***David C. Sanchez** is the EPA Project Officer (see below).*
The complete report is in two volumes, entitled "Applying for a Permit to Destroy PCB Waste Oil":
Volume I. Summary (Order No. PB 81-173 346; Cost: $9.50)
Volume II. Documentation (Order No. PB 81-234 874; Cost: $17.00)
will be available only from: (prices subject to change)
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
Telephone: 703-487-4650
The EPA Project Officer can be contacted at:
Industrial Environmental Research Laboratory
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711

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